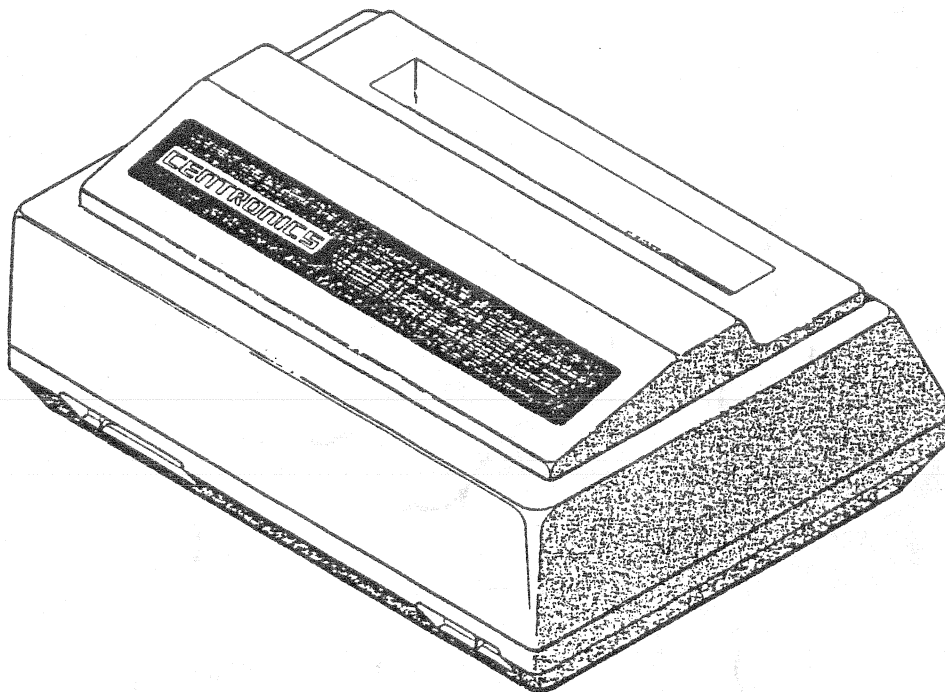


MODEL 730 PRINTER

OWNER'S MANUAL



CENTRONICS

data computer corp.

HUDSON, NEW HAMPSHIRE 03051

TELEPHONE (603) 883-0111

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CENTRONICS®

Centronics Data Computer Corp.
Hudson, N.H. 03051

Tel. (603) 883-0111, TWX. (710) 228-6505, TLX. 94-3404

Eastern Region (Mass.):	Tel. (617) 935-6150, TWX. 710-348-0343
Central Region (Texas):	Tel. (817) 461-5711, TWX. 910-890-4916
Western Region (Calif.):	Tel. (714) 979-6650, TWX. 910-595-1925

Centronics Data Computer (Canada) Ltd.
Mississauga, Ontario
Tel. (416) 625-0770, TWX. 610-492-4382

Centronics Data Computer (U.K.) Ltd.
London, England
Tel. 581-1011, TLX. 8951373

Centronics Data Computer (France)
50 Rue Dombasle, 75015 Paris, France
Tel. 828-4051, TLX. 202686

Centronics Data Computer (Germany), GmbH
6000 Frankfurt am Main 71
Tel. 666-1021, TLX. 841-413224

Centronics of Puerto Rico
Dorado, Puerto Rico
Tel. (809) 796-1881, TLX. 385-9349

Centronics (Italia) S.p.A.
Via Santa Valeria 5, 20123 Milan, Italy
Tel. 809-516

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INTRODUCTION

The Model 730 Miniprinter offers computer-grade capabilities such as 50 cps speed, a three-in-one plain paper handling system, 80-column line length at 10 cpi, full upper and lower case 96-ASCII character set, and a 7 x 7 dot matrix print head. The printer has a special double width mode for printing elongated characters.

The printer handles plain paper in any one of three ways:

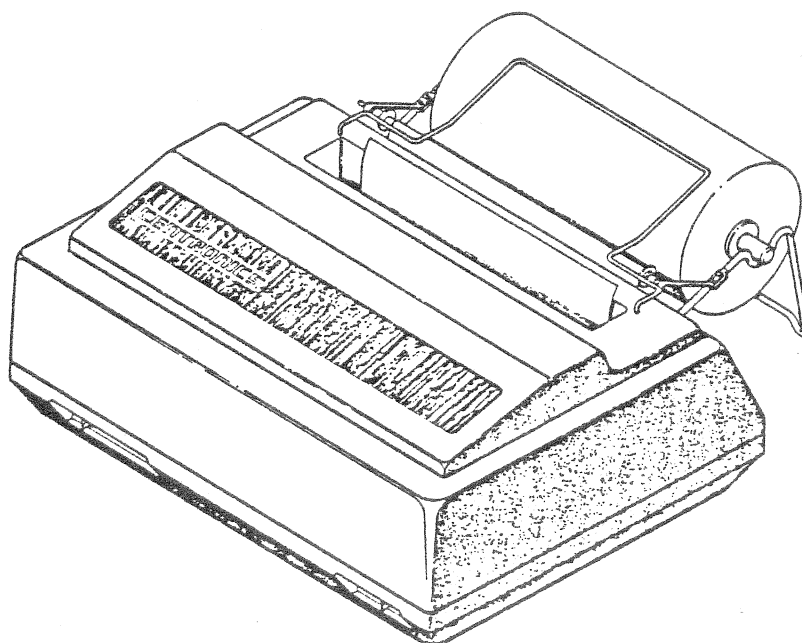
- (1) The printer's typewriter-like paper drive system takes hand fed 8-1/2" wide cut sheets.
- (2) The drive roller also comes with fixed pins to accept standard computer-grade fanfold paper 9" wide from pin to pin.
- (3) The printer also accepts an 8-1/2" wide paper roll with a 5" diameter and a 1" core.

The printer prints an original and two carbon copies for pin fed paper or an original plus one copy for roll paper. It uses a precision "rip and read" feature that allows for paper removal within 5 lines of print, providing a demand-document like forms capability.

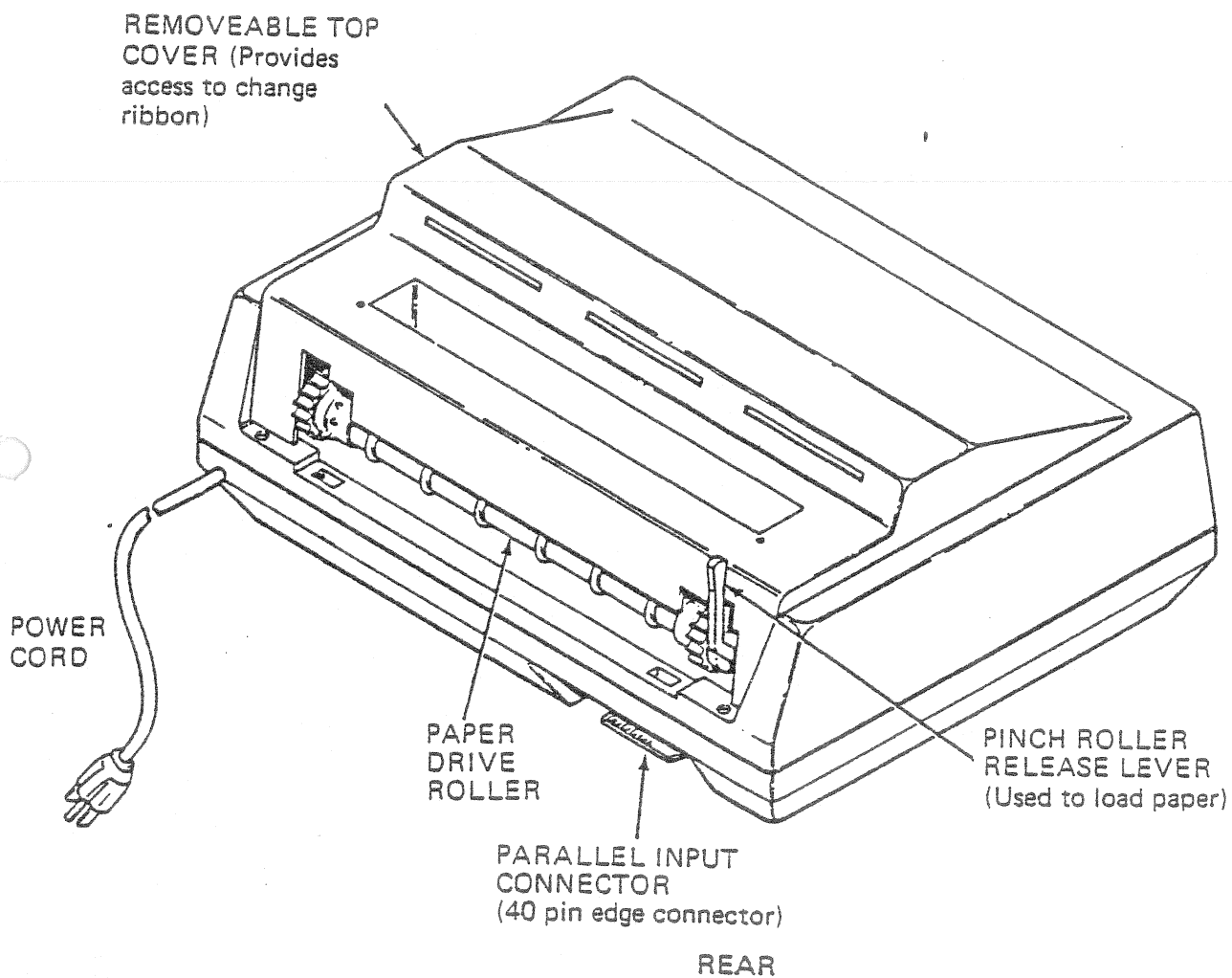
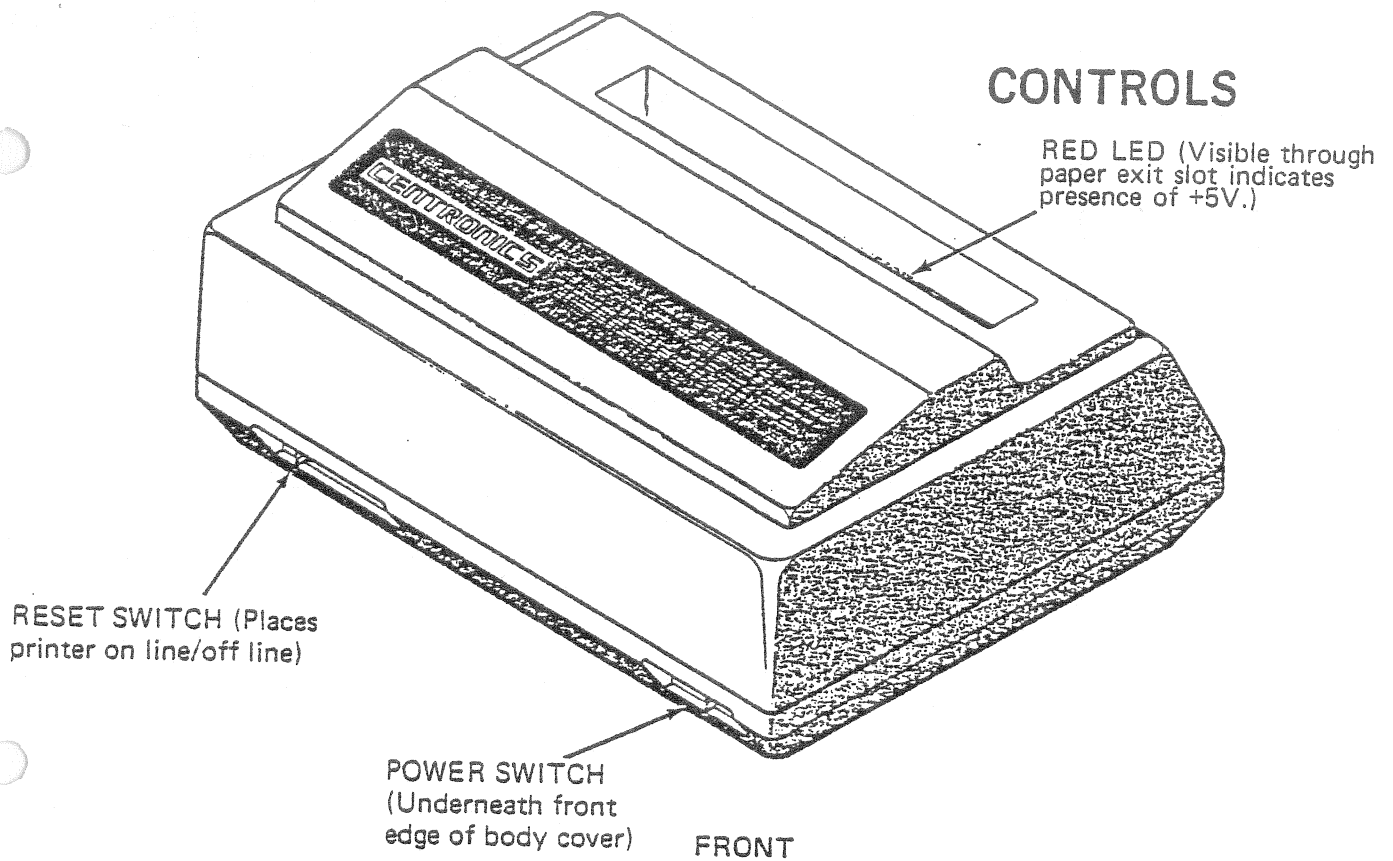
The printer weighs 10 pounds and has outside dimensions of 14-1/2" wide x 11" deep x 5" high excluding the roll paper holder.

Other Features Include:

- (1) Free-flight print head
- (2) Microprocessor technology
- (3) Expanded character mode
- (4) Full line buffer
- (5) Fast carriage return at 10 ips



CONTROLS



HINTS & TIPS

- o Always plug printer into a 3-wire grounded outlet.
- o Do not leave or place objects on any part of printer.
- o Turn on RESET switch before loading paper or changing ribbons.
- o Do not subject printer to temperatures below +40°F or +100°F during operation, to a sudden change in temperature, to dust or to extreme shock.
- o Use only a dry, soft cloth to clean printer surfaces. Do not use harsh detergents or chemicals.
- o Avoid touching print head print wires when handling paper or changing ribbons.
- o Periodically clean ink build-up from ribbon guide path and remove paper dust from interior.

SETTING UP

INSPECTION

Visually inspect the printer for signs of damage received during shipment. Notify the common carrier immediately of any discrepancies.

NOTE

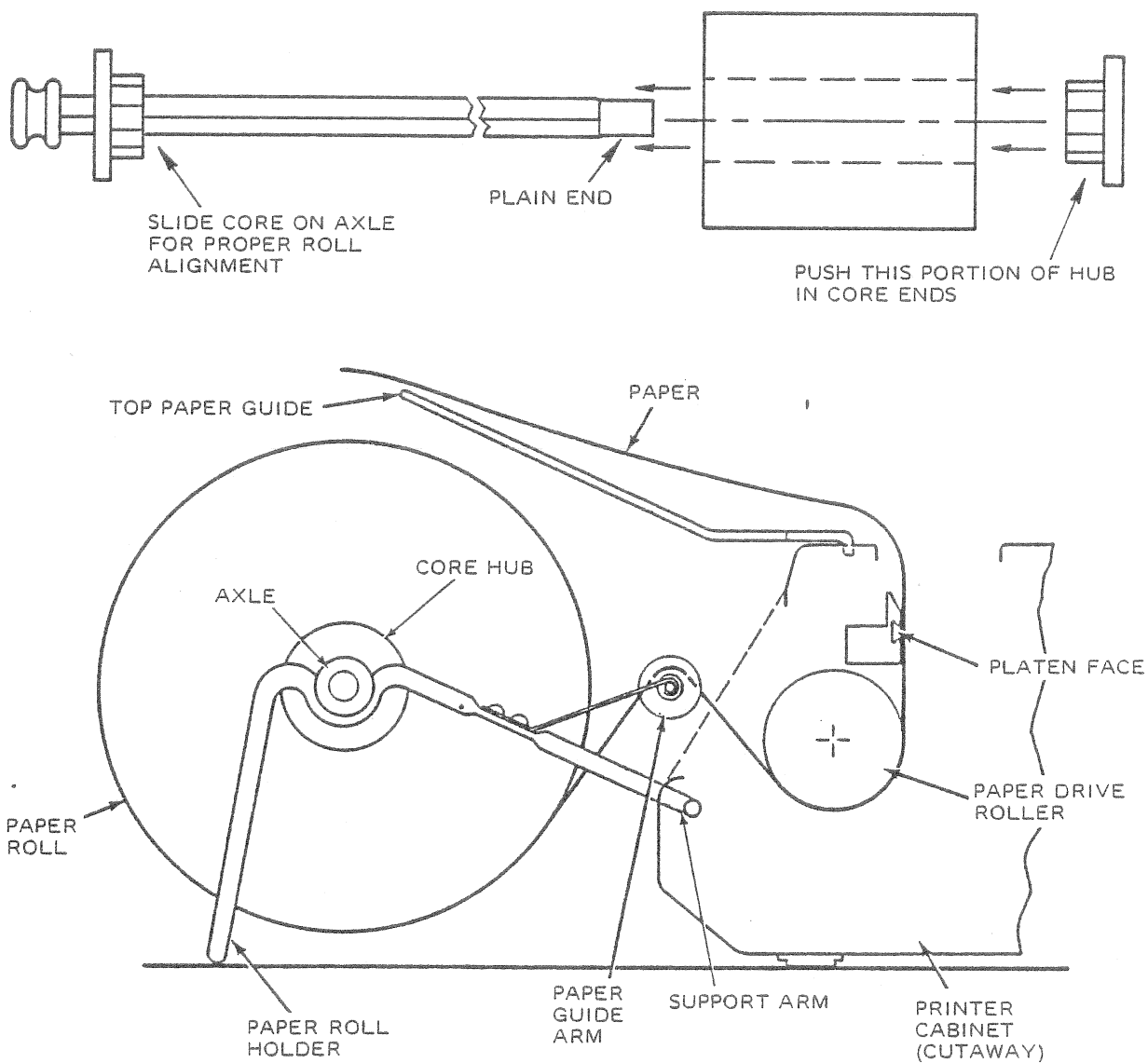
ANY ATTEMPT TO OPERATE A
DAMAGED PRINTER VOIDS THE
WARRANTY AND MAY CAUSE
FURTHER EXTENSIVE
DAMAGE.

QUICK SET-UP PROCEDURES

1. Install roll paper holder and roll paper, fanfold paper or forms and then install paper output guide.
2. Remove top cover and check ribbon.
3. Place POWER switch to the OFF position and place RESET switch ON.
4. Connect power cord to a 3-wire grounded AC outlet.
5. Connect interface cable to parallel input connector.
6. Place POWER switch ON and observe that the LED illuminates through paper exit slot.
7. To receive data place RESET switch OFF.

ROLL PAPER HOLDER INSTALLATION

- (1) Set the printer on a flat surface with enough room in back of the printer for the roll paper holder.
- (2) Refer to the accompanying illustration and squeeze the support arms together slightly.
- (3) Insert support arms into two holes provided at rear of printer and release arms.
- (4) Remove core hub from plain end and insert roller through standard 1-inch paper roll core and place roll on holder as shown with paper feeding from bottom of roll.

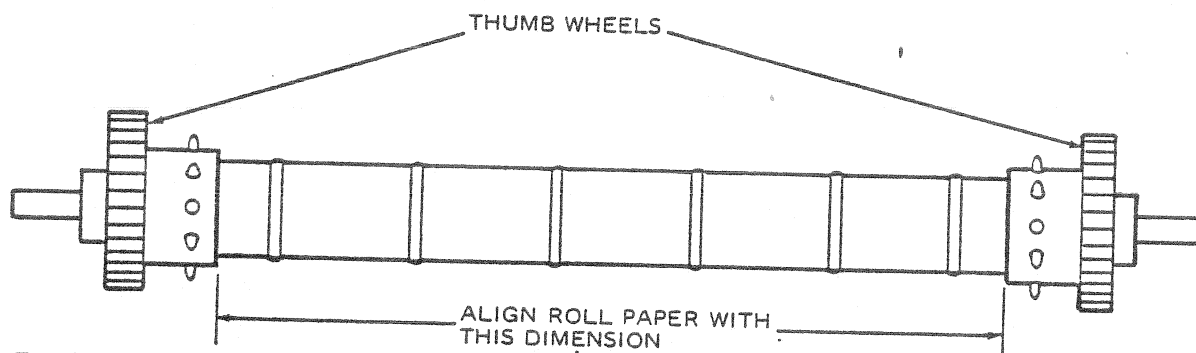


PAPER INSTALLATION

Refer to the appropriate procedure below to install roll paper, fanfold paper or single sheets/forms.

Roll Paper

- (1) Install the roll on the paper holder as described previously.
- (2) Remove top cover by lifting rear edge until latches are clear of main cover and then slide cover back to disengage front clips.
- (3) Retract head to the paper/ribbon load position by rotation adjustment lever fully CCW.
- (4) Push the pinch roller release lever towards rear of printer.
- (5) Feed the paper over the paper guide arm and through the bottom rear of the printer between the top paper guide and the pinch rollers.
- (6) Align the edges of the free end of paper with roll edges and straighten as required.
- (7) Slide roll on axle and align with paper drive roller as shown below.
- (8) Push the pinch roller release lever forward to secure paper.
- (9) Check ribbon position, remove slack if necessary, move head lever to print position and install top cover.



Fanfold Paper

- (1) Remove the top cover, retract head and make sure release lever is forward (closed).
- (2) Engage paper onto pins of paper drive roller at bottom rear of printer.
- (3) Hold paper in place while turning either thumbwheel until the paper exits through the top of the printer.
- (4) Be sure the paper supply is feeding properly.
- (5) Check ribbon, engage head and replace top cover.

GENERAL NOTE

When installing ribbon or paper
always back head away from platen.

Single Sheets/Forms

- (1) Push pinch roller release lever towards rear to the open position.
- (2) Insert bottom edge of sheet/form through opening in the top of printer or through rear of printer.
- (3) Slide sheet/form down between paper guide and pinch rollers until top and bottom edges match up. Straighten as required.
- (4) Pull pinch roller release lever forward to closed position.
- (5) Manually turn two thumbwheels until sheet is in position for the first printed line.

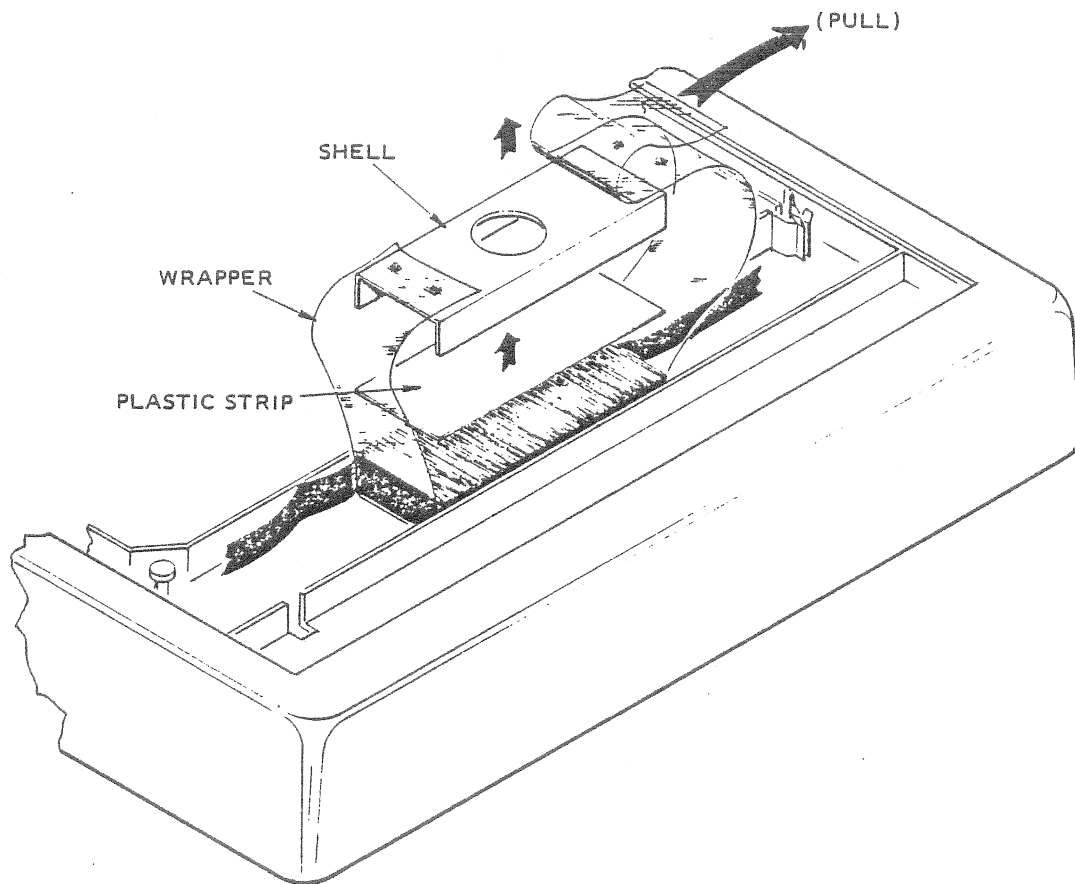
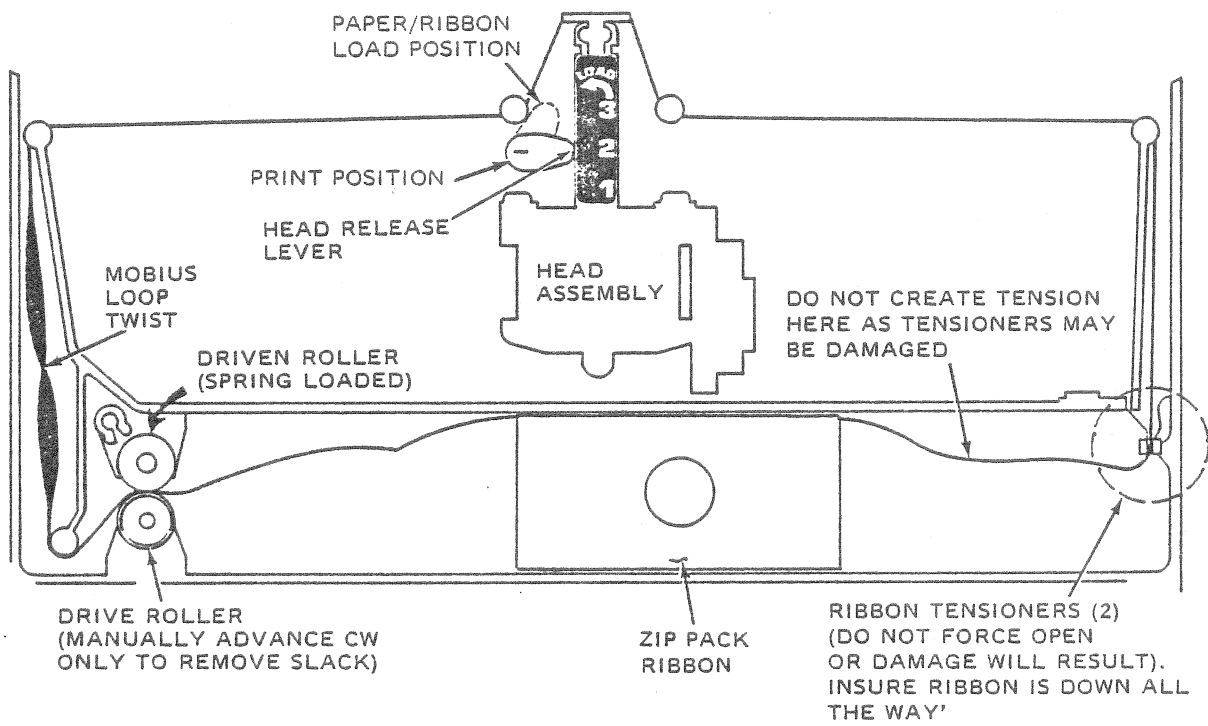
RIBBON INSTALLATION

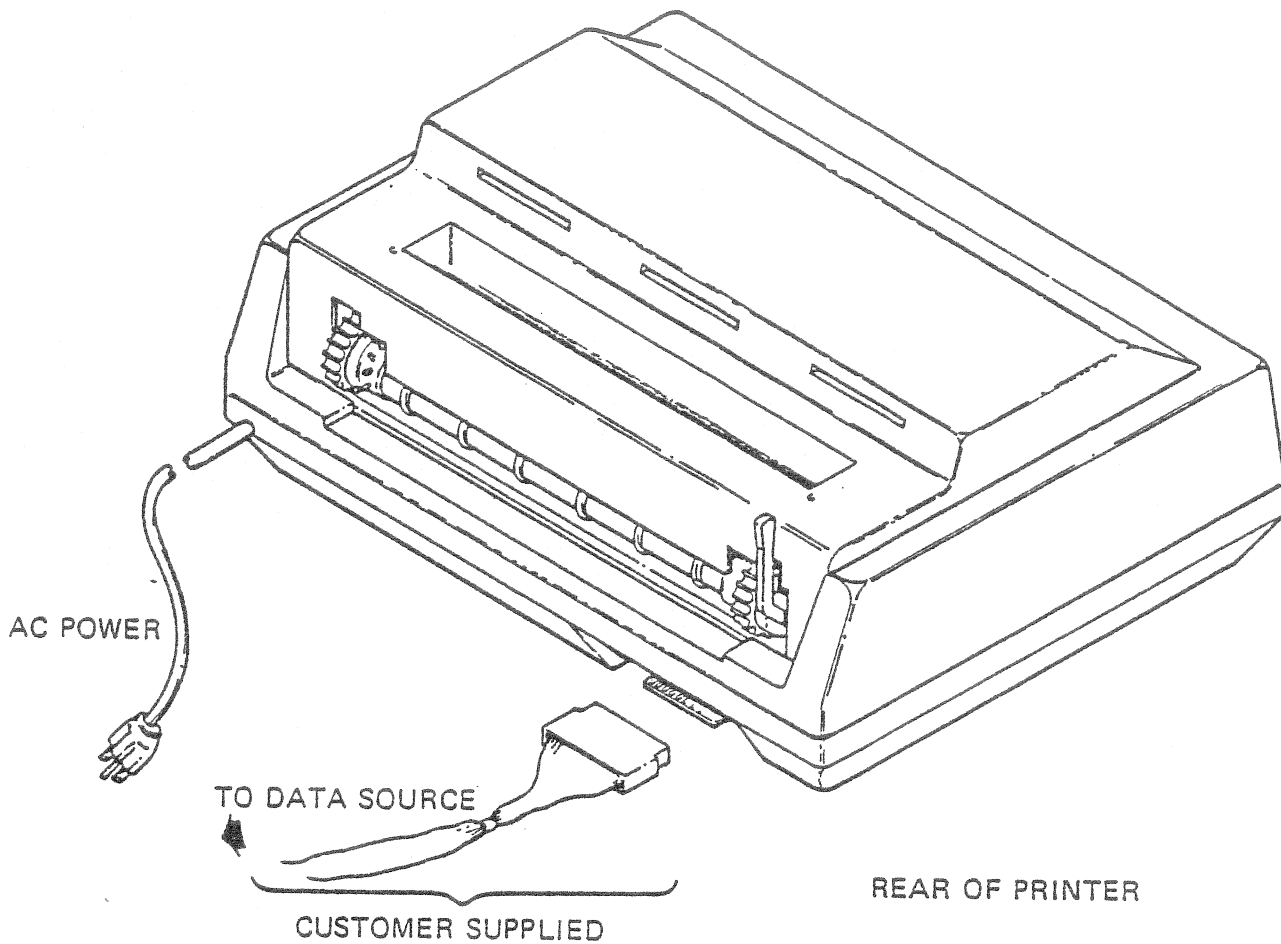
Zip-pack ribbons are used with the printer. The procedure for installing the ribbon is as follows:

- (1) Remove printer top cover to gain access to ribbon tray.

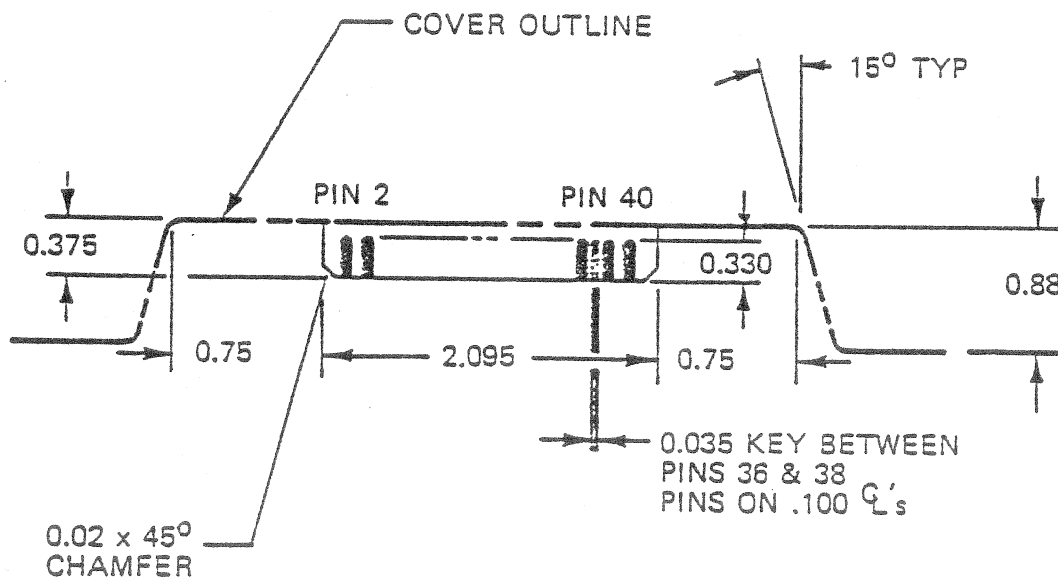
NOTE
USE THE THROW AWAY, PLASTIC
GLOVES PROVIDED WITH THE
NEW RIBBON WHEN PERFORMING
THE FOLLOWING STEPS.

- (2) Refer to the ribbon installation, diagram and push the driven roller away from the drive roller.
- (3) Retract the head.
- (4) Unthread the old ribbon and discard it.
- (5) Remove the ZIP PACK from the plastic bag.
- (6) Place ZIP PACK in printer tray as shown.
- (7) Pull ribbon out from both ends of ZIP PACK and thread according to diagram being careful to position mobius loop twist on the left side.
- (8) Hold ribbon in place by pressing down on plastic strip through hole in shell piece and then remove wrapper by pulling end of wrapper.
- (9) Remove and discard shell and plastic strip.
- (10) Manually advance drive roller clockwise until slack is removed from ribbon.
- (11) Engage head and install top cover.





PARALLEL DATA INPUT
 40 PIN EDGE CONNECTOR
 CENTRONICS P/N 31230032
 3M P/N 3464-0001
 T&B ANSLEY P/N 609-4015M



USING THE PRINTER

- (1) Be sure a ribbon is installed in the printer and that an adequate supply of paper has been installed.
- (2) Connect 40 pin pc edge connector at rear of the printer to interface using customer supplied cable.
- (3) Place RESET switch to ON position. This prevents the printer from printing and keeps it "off-line".
- (4) Connect power cord to 115 VAC outlet.
- (5) Place POWER switch to ON position. "Power On" LED should be visible through tip cover paper opening.
- (6) Place RESET switch to OFF position. Printer is ready to accept data.

PRINCIPLES OF OPERATION

The Model 730 Miniprinter stores characters for printing until one of two things happens:

- (1) Its 80 character holding buffer is filled.
- (2) It receives a carriage-return code (hex 0D).

When (1) or (2) happens, the Printer prints out the contents of its 80 character buffer. If the buffer is empty when the carriage return is received, the printer simply advances the paper one line, leaving a blank line in the printout.

If more than 80 characters are received without receiving a carriage return, the overflow characters are lost and do not print. The printer automatically starts to print when 80 characters are received and goes into a BUSY mode. During print, no additional characters may be stored in the holding buffer.

Printers may be shipped with an automatic line feed function enabled. This feature automatically moves the paper up one line after printing without sending a line feed character. In addition, line feeds may be used for limited paper handling functions. The printer has a special line feed buffer separate from the data buffer that holds up to 255 line feeds. Each line feed moves the paper one-sixth of an inch. Thus, for example, to move the paper 12 inches would require 72 line feeds before the carriage return is sent. Line feeds within a line prior to a carriage return are all performed before printing the line. They do not cause the line of data to be printed.

Normal procedures for communicating with the Model 730 Miniprinter simply require that each line of data be terminated with a carriage return and be preceded with a line feed code unless the automatic line feed feature is enabled. All lines must either be terminated with a carriage return or be exactly 80 characters long to initiate the forced print on buffer full.

Since elongated characters may be intermixed with normal characters on the same line as described below, any lines that exceed 8 inches without a carriage return will have the excess ignored and it will not be printed.

Reception of an escape code, SO code sequence (or bit 8 logically high) causes all the printable characters that follow to be printed at 5 characters per inch as opposed to 10 characters per inch for normal printing. Elongated characters are simply double width characters formed by printing each print column twice. The elongation sequence is as follows;

SEQUENCE	OCTAL	HEX	FUNCTION
ESC SO	033/016	1B/0E	Start elongation
ESC SI	033/017	1B/0F	Stop elongation

The ON/OFF switch controls the primary power. An LED, visible through the print head path, indicates that the +5 volts is active. Placing the RESET switch on stops all mechanical motion, resets the printer electronics, and clears the print buffer. Placing the switch off causes the printer to reset, the print head to return to the left and the electronics to go not busy.

CAUTION

ACTUATION OF THE RESET SWITCH RESULTS
IN LOSS OF DATA CONTAINED IN THE
PRINT BUFFER.

PRINT CHARACTER SET SAMPLES

	!	"	#	\$	%	&	'
<	)	*	+	,	-	.	/
0	1	2	3	4	5	6	7
8	9	:	;	<	=	>	?
@	A	B	C	D	E	F	G
H	I	J	K	L	M	N	O
P	Q	R	S	T	U	V	W
X	Y	Z	[	\	]	^	_
↓	a	b	c	d	e	f	g
h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w
x	y	z	{		}	~	

NORMAL CHARACTERS

	!	"	#	\$	%	&	'
<	)	*	+	,	-	.	/
0	1	2	3	4	5	6	7
8	9	:	;	<	=	>	?
@	A	B	C	D	E	F	G
H	I	J	K	L	M	N	O
P	Q	R	S	T	U	V	W
X	Y	Z	[	\	]	^	_
↓	a	b	c	d	e	f	g
h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w
x	y	z	{		}	~	

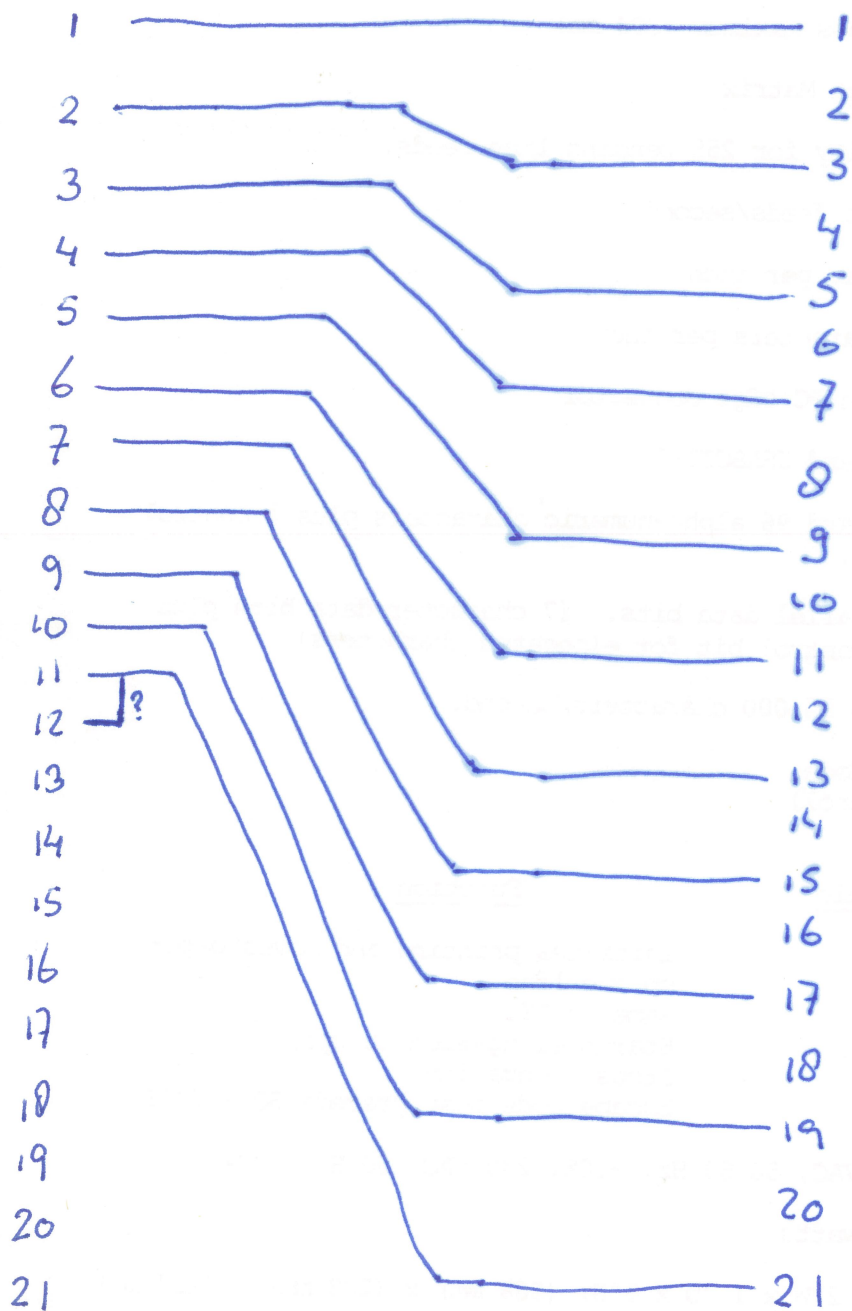
EXPANDED CHARACTERS

SPECIFICATIONS

Ribbon (12 per box)	20 yard zip pack mobius loop																														
Paper	Cut Sheets (8-1/2" wide) Rolls (8-1/2" wide x 5" diameter with 1" Core), 2ply Fanfold (9" pin-to-pin), 3 ply																														
Printing Speed	21 lines per minute (lpm) at 80 characters per line (cpl) or 65 lpm at 20 cpl left justified																														
Characters Per Line	80 maximum																														
Print Width	8 inches maximum (204 mm)																														
Character Structure	7x7 Dot Matrix																														
Line Feed Buffer	Capacity for 255 pending line feeds.																														
Line feed Repeat Rate	9 line feeds/second																														
Vertical Spacing	6 lines per inch																														
Horizontal Spacing	10 characters per inch																														
Parallel Data Input Connector	40-pin PC edge connector																														
Code	Standard USASCII-2																														
Character Set	Standard 96 alpha-numeric characters plus 5 control codes.																														
Input Character Format	8 parallel data bits. (7 character data bits plus one control bit for elongated characters)																														
Input Data Rate	Up to 15,000 characters/second.																														
Input Device Codes (Software Control)																															
<table><tr><td>Octal Code</td><td>Hex Code</td><td>Decimal Code</td></tr><tr><td>12</td><td>0A</td><td>10</td></tr><tr><td>15</td><td>0D</td><td>13</td></tr><tr><td>16</td><td>0E</td><td>14</td></tr><tr><td>17</td><td>0F</td><td>15</td></tr><tr><td>33</td><td>1B</td><td>27</td></tr></table>	Octal Code	Hex Code	Decimal Code	12	0A	10	15	0D	13	16	0E	14	17	0F	15	33	1B	27	<table><tr><td>ASCII Mnemonic</td><td>Function</td></tr><tr><td>LF</td><td>Initiates printing and moves paper up one line.</td></tr><tr><td>CR</td><td>Same as LF.</td></tr><tr><td>SO</td><td>Starts elongation (5 cpi).</td></tr><tr><td>SI</td><td>Stops elongation.</td></tr><tr><td>ESC</td><td>Escape code must precede SO and SI.</td></tr></table>	ASCII Mnemonic	Function	LF	Initiates printing and moves paper up one line.	CR	Same as LF.	SO	Starts elongation (5 cpi).	SI	Stops elongation.	ESC	Escape code must precede SO and SI.
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ESC	Escape code must precede SO and SI.																														
Input Voltage/Frequency	115 VAC, 50/60 Hz, $\pm 10\%$; 230 VAC, 50 Hz, $\pm 10\%$																														
Power Requirements	100 watts																														
Size	14-1/2"W x 11"D x 5"H; (368 mm) x (228 mm) x (127 mm)																														
Weight	10 lbs. (5.0 kg)																														

DTE
PRINTER

PRINTER
DTE



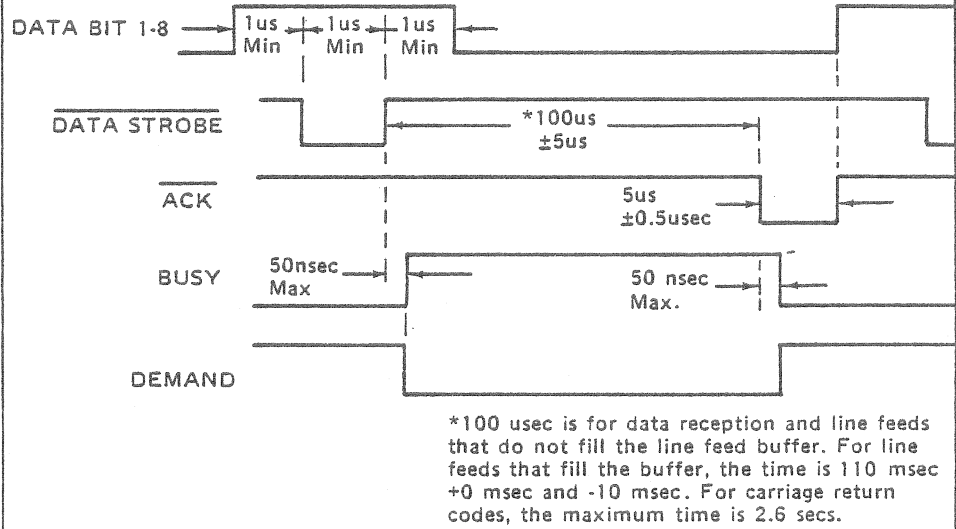
STANDARD PARALLEL INTERFACE CONNECTIONS

(P001)

INTERFACE PINOUT

PIN	SIGNAL
1	DATA STROBE
3	DATA BIT 1
5	DATA BIT 2
7	DATA BIT 3
9	DATA BIT 4
11	DATA BIT 5
13	DATA BIT 6
15	DATA BIT 7
17	DATA BIT 8
19	ACKNOWLEDGE
21	BUSY
23	GROUND
25	+5 VOLTS
27	SIGNAL GROUND
29	Not Used
31	SIGNAL GROUND
33	CHASSIS GROUND
35	+5 VOLTS
37	Not Used
39	Not Used
2	Twisted Pair Grounds For Pins 1/3/5/7/9/ 11/13/15/17/19/21/36
4	
6	
8	
10	
12	Not Used
14	
16	
18	
20	
22	+5 VOLTS
24	
26	
28	GROUND
30	
32	
34	Internal Jumpers
36	
38	
40	DEMAND
	Not Used

INTERFACE TIMING



INTERFACE RECEIVERS & DRIVERS

All input/output signals are TTL compatible.

